



Portland General Electric Company
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December 31, 2009

Email / US Mail

Public Utility Commission of Oregon
Filing Center
550 Capitol Street, N.E., Ste 215
Salem, OR 97301-2551

RE: PGE 2009 Renewable Portfolio Implementation Plan

Enclosed please find an original and one copy of PGE's Renewable Portfolio Standard Implementation Plan. The Plan is pursuant to OAR 860-083-0400 and provides information about how PGE will meet its RPS requirement in the years 2011 through 2015.

OAR 860-083-0100 specifically describes how to calculate the incremental cost of renewable resources. Those cumulative incremental costs are then compared to the 4% cap as allowed in ORS 469A.100. This report, in compliance with OPUC rules, provides information regarding our current and planned renewable resources for the years 2011 through 2015. As such, PGE provides the levelized annual cost-based difference between "qualifying electricity" and a like amount of non-qualifying electricity (in this instance, the cost of a CCCT).

The current stand-alone cost-based methodology required by the current rules, however, does not present a complete picture with respect to the overall cost of non-dispatchable renewable resources, such as wind, as compared to more flexible thermal generation, and does not even begin to attempt to value the contribution of assets in a utility's resource portfolio. It is worth noting that the IRP provides a more comprehensive picture of the overall costs and portfolio value of generation resources as it includes both the interaction between generation and market prices, as well as directly addressing risks associated with various portfolio alternatives.

Confidential Attachment B is subject to treatment provided under OAR 860-011-0080 and is provided under separate cover. In the near future, PGE will file an Application for Protective Order. Confidential Work Papers containing the underlying models used to prepare the analyses presented in the 2009 Renewable Portfolio Implementation Plan will be provided once the Protective Order is issued.

If you have any questions or require further information, please call Rebecca Brown at (503) 464-8545. Please direct all formal correspondence and requests to the following email address pge.opuc.filings@pgn.com

Sincerely,

A handwritten signature in black ink, appearing to read "R. Dahlgren", with a long horizontal flourish extending to the right.

Randy Dahlgren
Director, Regulatory Policy and Affairs

RD/jb

Encl.

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Implementation Plan¹

The renewable portfolio standard (RPS), ORS 469A.052, states that at least five percent of the electricity sold by a large utility to retail electricity consumers must come from qualifying resources in each of the calendar years 2011, 2012, 2013, and 2014. In 2015 the percentage that must come from qualifying resources increases to 15 percent.

ORS 469A.075 required electric companies subject to ORS 469A.052 to develop an implementation plan for meeting the requirements of the standard and file the plan with the Public Utility Commission. Pursuant to OAR 860-083-0400, the first implementation plan is due January 1, 2010. The Plan should include how PGE will meet compliance with ORS 469.100 for the Years 2011 through 2015.

The following information is provided pursuant to OAR 860-083-0400 – Implementation Plans:

a) Annual MWh target for compliance with RPS.

2011 – 1,051,200 MWh
2012 – 1,071,648 MWh
2013 – 1,077,480 MWh
2014 – 1,095,000 MWh
2015 – 3,302,520 MWh

b) Accounting of the planned method for compliance in each year (including banked RECs by year of issuance, the number of bundled/unbundled RECs and ACP):

See Attachment A, which is an Excel spreadsheet, Tab 3 - Annual Compliance by Resource and Tab 4 - Annual Compliance by Year for detail by year.

	<u>Banked</u>	<u>Bundled</u>	<u>Unbundled</u>	<u>ACP</u>
2011	1,051,200	951,200	100,000	0
2012	1,071,648	1,071,648	0	0
2013	1,077,480	1,077,480	0	0
2014	1,095,000	1,095,000	0	0
2015	3,302,520	3,302,520	0	0

c) Identification of generating facilities (either owned or under contract) that are expected to provide RECs for compliance with RPS.

Name: Biglow Canyon Wind Farm (Phases 1, 2, and 3)

Source: Wind

Year: Phase 1 – 2008; Phase 2 – 2010; Phase 3 – 2011 (first full year of operation for each phase)

State: Oregon

Expected MWh output: (125+150+175 MW); 1.4 million MWh output (1.4GWh)

¹ Throughout this document the term ‘issued’ refers to generated RECs and the term ‘acquired’ refers to purchased RECs (unbundled or bundled).

Name: Pelton Round Butte
Source: Hydroelectric (certified low impact)
Year: 2007
State: Oregon
Expected MWh output: 50 MWa = 438,000 MWh

Name: North Fork (upgrade)
Source: Hydroelectric
Year: 2001
State: Oregon
Expected MWh output: .94 MWa = 8234 MWh

Name: Faraday (upgrade)
Source: Hydroelectric
Year: 2002
State: Oregon
Expected MWh output: 1.03 MWa = 9,023 MWh

Name: Klondike Wind Farm
Source: Wind - PPA
Year: 2005
State: Oregon
Expected MWh output: 26 MWa ² = 231,519 MWh (187,716 MWh)

Name: Vansycle Ridge Wind Farm
Source: Wind – PPA
Year: 1997
State: Oregon
Expected MWh output: 8 MWa = 71,777 MWh

Name: SunWay 1
Source: Solar
Year: 2008
State: Oregon
Expected MWh output: 0.013 MWa = 112 MWh

Name: SunWay 2
Source: Solar
Year: 2009
State: Oregon
Expected MWh output: 0.13 MWa = 1,168 MWh

² Currently of the 26 MWa generated, 5 MWa is allocated to PGE Rate Schedule 9, Stable Rate Pilot. Service under this schedule terminates December 31, 2011.

Name: IRP Project 1
Source: Renewable
Year: 2012
State: Oregon
Expected MWh output: 61 MWa = 534,360 MWh

d) Forecast of expected incremental cost of compliance of new qualifying electricity for facilities or contracts planned for first operation in the compliance year.

2011: We currently do not anticipate adding new renewables that would come on-line in 2011; however, since this is the first Implementation Plan we have provided the incremental cost for all resources identified in Section (c) above. With the exception of Biglow 1, 2, and 3, the incremental cost of all these resources is deemed zero pursuant to OAR 860-083-0100 (1)(i) because the resources qualify as “generating facilities or contracts that became operational before June 6, 2007 and for certified low-impact hydroelectric facilities under ORS 469A.125(5).” The 2011 estimated incremental cost of Biglow 1, 2, and 3 is shown on Attachment A, Tab 2 – Incremental Cost of RECs Generated. Tab 2 is the product of Attachment A, Tab 5 – Incremental Cost By Resource and Confidential Attachment B.

Biglow 1:	417,502	x	\$(8.349)	=	\$(3,485,598)
Biglow 2:	458,367	x	\$(9.462)	=	\$(4,336,964)
Biglow 3:	535,937	x	\$0.301	=	\$ 161,345

2012: 61 MWa forecast to be on-line in 2012 (leap-year so 8784 hours in the year). See Attachment A, Tab 2– Incremental Cost of RECs Generated for estimated incremental cost (calculated the same as 2011).

$$\text{IRP Project 1: } 535,824 \times \$1.764 = \$945,123$$

SunWay 1 and 2 produce RECs used for compliance with RPS in the years 2012-2015. However, pursuant to OAR 860-083-0100(13)(a), the incremental cost of each project is not included in this Plan.

2013: 61 MWa forecast to be on-line in 2013³. See Attachment A, Tab 2– Incremental Cost of RECs Generated for estimated incremental cost (calculated the same as 2011).

$$\text{IRP Project 2: } 534,360 \times \$ (0.800) = \$ (427,271)$$

2014: Zero; we currently do not anticipate adding new renewables that would come on-line in 2014

2015: Zero; we currently do not anticipate adding new renewables that would come on-line in 2015

e) Forecast of expected incremental costs of compliance, cost of using unbundled RECs and ACP, compared to annual revenue requirements.

PGE does not plan to use Alternative Compliance Payments in any of the compliance years 2011 through 2015. See Attachment A, Tab 1 - Incremental Cost Summary, for the incremental cost and the cost of unbundled RECs for RECs used to comply.

f) Forecast of the number and cost of bundled RECs issued.

See Attachment A, Tab 2 - Incr Cost of RECs Generated. Bundled RECs are the RECs from each resource with incremental costs.

g) Must provide sufficient documentation to demonstrate how the IP appropriately balances risk and expected cost if there is a material difference between the IP and the IRP Action Plan filed November 5, 2009; or if conditions materially change –
(Section 4 of IP rule OAR 860-083-0400)

There are no material differences between the IP and the 2009 IRP Action Plan and conditions have not materially changed.

Unless provided in a recently filed IRP, must provide (h) and (i):

h) Forecast of (d), (e), and (f) above assuming government incentives continue; forecast assuming government incentives end. (Section 4(a) of IP rule)

See Attachment A, Tab 5 - Incremental Cost by Resource. The Biglow Canyon resources are assumed to receive government incentives currently in place.

i) Range of estimates for forecasts of (d), (e), and (f) above. (Section 4(b) of IP rule)

PGE uses the Base case, a high gas price and a low gas price for the range of estimates. See Attachment A, Tab 5 - Incremental Cost by Resource.

(Section 5 of IP rule)

Must file sufficient documentation or citations to demonstrate how the Implementation Plan appropriately balances risks and expected costs as required by the IRP guidelines 1.b and c of Commission Order No. 07-047 if any of the following apply:

j) If the sum of costs in Section (e) above expected to exceed four percent of more of the annual revenue requirement in any reported compliance year.
(Section 5(a) of IP rule)

The costs in Section (e) above are not expected to exceed four percent of the annual revenue requirement in any compliance year reported in the plan. See Attachment A, Tab 1 - Incremental Cost Summary.

- k) If using any of the following: 1) unbundled RECs, 2) bundled RECs issued January 1 through March 31 for the previous compliance year, 3) ACP, or 4) plan to sell bundled RECs that are included in retail rates.**

(Section 5(b) of IP rule)

PGE plans to use unbundled RECs to meet RPS compliance targets if the market price for unbundled RECs warrants it. Pursuant to OAR 860-083-0300 (3)(b)(B), an electric utility company must use, in chronological order (from first issued to last issued) its banked RECs before using 1) RECs generated in the compliance year, and 2) RECs generated between Jan. 1 through March 31 of the year following the compliance year. Therefore, PGE must use its 100,000 banked unbundled RECs in the first compliance year, 2011.

Further, we do not currently forecast using unbundled RECs in years after 2011 (2012 through 2015) for the purposes of complying with RPS but we reserve the right to do so if the market prices for unbundled RECs in the future warrants it.

Using unbundled RECs may appropriately balance the risks and expected costs, depending upon the market prices for unbundled RECs. The ability to use unbundled RECs to meet the renewable portfolio standard is an integral part of the RPS legislation. It provides another source for acquiring RECs in a competitive environment in addition to constructing renewable resources, and/or purchasing output and associated environmental attributes through a power purchase agreement. More sources of REC supply reduces supply and price risk of RPS compliance. The competitive nature of a bi-lateral or multi-lateral market for RECs reduces the overall price risk associated with acquisition. PGE intends to continue monitoring active REC markets and may purchase and sell RECs in the market when price is perceived to be a good value in relation to other means of achieving RPS compliance.

- l) Implementation Plan must provide a detailed explanation of how the Plan complies, or does not comply, with any conditions specified in a Commission acknowledgement order on the previous implementation and any relevant conditions specified in the most recent acknowledged order of an IRP.**

Not applicable. PGE does not have a recently acknowledged IRP order and there are no special conditions from the previous IRP (LC 43 – final PUC order 08-246) order related to renewable resource actions, which were considered reasonable.

**Implementation Plan
Attachment A**

**Implementation Plan
Attachment B**

**Confidential and Subject to Treatment
Provided Under OAR 860-011-0080**

Incremental Cost Summary

	Total Incremental Cost to Comply				
Base Case	2011	2012	2013	2014	2015
Unbundled RECS	90,000				
Biglow 1	(1,453,740)	(2,651,415)	(2,451,110)	(1,813,971)	(6,003,869)
Biglow 2	-	(281,033)	(1,016,601)	(1,960,998)	(7,470,335)
Biglow 3	-	-	-	16,862	207,660
IRP Project 1	-	-	-	-	133,754
Total Incremental Cost	(1,363,740)	(2,932,449)	(3,467,711)	(3,758,107)	(13,132,790)
Revenue Requirement (\$000)	1,664,093	1,690,569	1,717,028	1,750,711	1,785,725
Percentage of Rev Requirement	-0.08%	-0.17%	-0.20%	-0.21%	-0.74%

Low Case	2011	2012	2013	2014	2015
Unbundled RECS	90,000				
Biglow 1	1,423,472	2,596,210	2,400,075	1,776,202	5,878,861
Biglow 2	-	335,732	1,214,468	2,342,680	8,924,335
Biglow 3	-	-	-	1,306,858	16,094,500
IRP Project 1	-	-	-	-	2,114,663
Total Incremental Cost	1,513,472	2,931,942	3,614,543	5,425,739	33,012,359
Revenue Requirement (\$000)	1,664,093	1,690,569	1,717,028	1,750,711	1,785,725
Percentage of Rev Requirement	0.09%	0.17%	0.21%	0.31%	1.85%

High Case	2011	2012	2013	2014	2015
Unbundled RECS	90,000				
Biglow 1	(6,936,326)	(12,650,873)	(11,695,141)	(8,655,117)	(28,646,652)
Biglow 2	-	(1,447,528)	(5,236,246)	(10,100,589)	(38,477,751)
Biglow 3	-	-	-	(2,415,289)	(29,745,295)
IRP Project 1	-	-	-	-	(3,572,815)
Total Incremental Cost	(6,846,326)	(14,098,401)	(16,931,387)	(21,170,996)	(100,442,514)
Revenue Requirement (\$000)	1,664,093	1,690,569	1,717,028	1,750,711	1,785,725
Percentage of Rev Requirement	-0.41%	-0.83%	-0.99%	-1.21%	-5.62%

Notes:

Although the SunWay project produce RECs that PGE uses for compliance, until the sum of these projects is 20 MW, they are not included in the incremental cost calculation (pursuant to OAR 860-0830100(13)(a))

The following hydroelectric resources are deemed to be zero incremental cost:

- North Fork Upgrade
- Faraday Upgrade
- Round Butte Upgrade
- Pelton-Round Butte Low-Impact Hydro
- PPM Klondike II
- Vansycle Ridge

Incremental Cost for RECs Generated

Base Case	2011	2012	2013	2014	2015
Biglow 1	(3,485,595)	(3,495,144)	(3,485,595)	(3,485,595)	(3,485,595)
Biglow 2	(4,336,964)	(4,348,846)	(4,336,964)	(4,336,964)	(4,336,964)
Biglow 3	161,345	161,787	161,345	161,345	161,345
IRP Project 1		945,123	942,541	942,541	942,541
Total Incremental Cost	(7,659,202)	(6,735,068)	(6,716,660)	(6,716,659)	(6,716,658)

Low Case	2011	2012	2013	2014	2015
Biglow 1	3,413,021	3,422,372	3,413,021	3,413,021	3,413,021
Biglow 2	5,181,096	5,195,290	5,181,096	5,181,096	5,181,096
Biglow 3	12,504,944	12,539,204	12,504,949	12,504,949	12,504,944
IRP Project 1		14,942,505	14,901,678	14,901,678	14,901,678
Total Incremental Cost	21,101,072	36,101,383	36,002,757	36,002,758	36,002,754

High Case	2011	2012	2013	2014	2015
Biglow 1	(16,631,047)	(16,676,612)	(16,631,047)	(16,631,047)	(16,631,047)
Biglow 2	(22,338,572)	(22,399,773)	(22,338,572)	(22,338,572)	(22,338,572)
Biglow 3	(23,111,204)	(23,174,522)	(23,111,213)	(23,111,213)	(23,111,204)
IRP Project 1	-	(25,246,011)	(25,177,033)	(25,177,033)	(25,177,033)
Total Incremental Cost	(6,846,326)	(14,098,401)	(16,931,387)	(21,170,996)	(100,442,514)

* The following hydroelectric resources are deemed to be zero incremental cost:

- North Fork Upgrade
- Faraday Upgrade
- Round Butte Upgrade
- Pelton-Round Butte Low-Impact Hydro
- PPM Klondike II
- Vansycle Ridge

Annual Compliance by Resource

	Number of RECs Used for Compliance				
	2011	2012	2013	2014	2015
Facility	MWh	MWh	MWh	MWh	MWh
Unbundled RECs	100,000	-	-	-	-
Biglow 1	174,128	317,584	293,592	217,276	719,138
Biglow 2	-	29,702	107,443	207,255	789,528
Biglow 3	-	-	-	56,009	689,778
North Fork Upgrade	11,387	6,705	5,791	4,285	14,184
Faraday Upgrade	12,477	7,347	6,345	4,696	15,542
Round Butte Upgrade	83,585	49,219	42,505	31,456	104,114
Pelton-Round Butte Low-Impact Hydro	438,000	439,200	438,000	438,000	438,000
PPM Klondike II	166,633	159,009	132,004	97,691	329,552
Vansycle Ridge	64,991	62,514	50,474	37,354	123,635
Sunway 1	-	26	95	70	229
Sunway 2	-	341	1,232	908	2,990
IRP Project 1	-	-	-	-	75,830
TOTAL	1,051,200	1,071,648	1,077,480	1,095,000	3,302,520

Incremental Cost by Resource

Expected Incremental Cost of Qualifying Electricity					
\$/MWh			\$000's		
Base Case	Low Case	High Case	Base Case	Low Case	High Case

With Government Incentives:

Biglow 1	(8.349)	8.175	(39.835)	(3,486)	3,414	(16,634)
Biglow 2	(9.462)	11.303	(48.735)	(4,496)	5,371	(23,156)
Biglow 3	0.301	23.333	(43.123)	157	12,198	(22,543)

First Year of operation - 2012

IRP Project 1	1.764	27.887	(47.116)	943	14,902	(25,177)
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First Year of operation - 2013

IRP Project 2	(0.800)	27.482	(53.590)	(427)	14,685	(28,636)
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Without Government Incentives:
First Year of operation - 2012

IRP Project 1	3.190	29.313	(45.691)	1,704	15,664	(24,415)
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First Year of operation - 2013

IRP Project 2	25.220	53.502	(27.570)	13,476	28,589	(14,732)
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